

SYSTEM AND METHOD FOR DETECTING OBSTACLES  
WITHIN THE AREA OF A RAILROAD GRADE CROSSING  
USING A PHASE MODULATED MICROWAVE SIGNAL

ABSTRACT

A system and method for automatically detecting the presence of an obstacle located within a surveillance area associated with a railroad grade crossing. The system includes a transmitter transmitting a signal through the surveillance area and a modulating reflector receiving the transmitted signal. The modulating reflector includes a phase modulator receiving the received signal and generating a phase modulated signal having a characteristic. The modulating reflector transmits the phase modulated signal through the surveillance area that is received by a receiver located to receive the phase modulated signal. The system further includes a processor coupled to the transmitter and to the receiver, the processor being configured to process the received phase modulated signal and to initiate an action as a function of the characteristic in the received phase modulated signal.